

# UPPER WAITEMATĀ HARBOUR REPORTING AREA

Includes Kaipātiki, Rodney and Upper Harbour local boards

## STATE OF AUCKLAND MARINE REPORT CARD

JULY 2014

AREA GRADE

D

### QUICK FACTS

OF THE NINE BATHING BEACHES TESTED DURING SUMMER 2013/14 **90% PASSED** RECREATIONAL BACTERIA GUIDELINES

**MID-LOWER HARBOUR** MONITORING SITES HAVE LOW SEDIMENT MUD AND ORGANIC CONTENTS, AND BIVALVE-DOMINATED COMMUNITIES

UPPER HARBOUR MONITORING SITES SHOW ECOLOGICAL COMMUNITIES DOMINATED BY BURROWING COROPHID AMPHIPODS, AND MARINE WORMS (OLIGOCHAETES AND POLYCHAETES)

THE INTERTIDAL AND SUBTIDAL HABITATS OF THE UPPER **WAITEMATĀ HARBOUR** ARE MAINLY SAND AND MUD

### WHAT MAKES UP THIS GRADE?

#### OVERALL GRADE



#### WATER QUALITY



#### CONTAMINANTS IN SEDIMENT



#### ECOLOGY

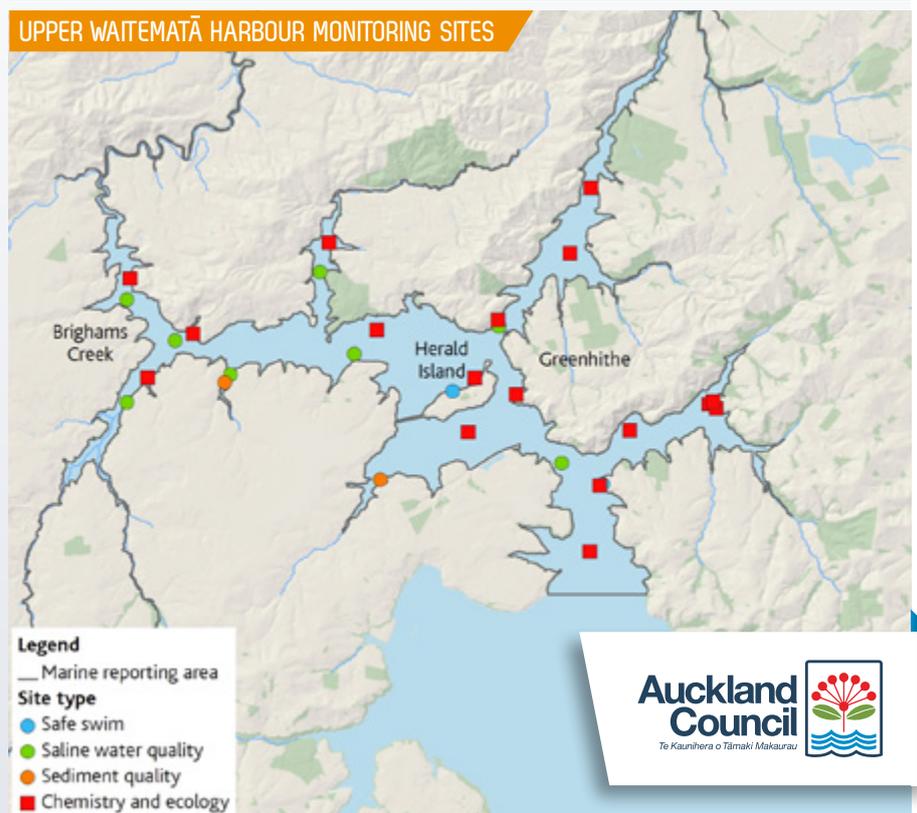


The overall environmental health score from A to F is based on the average of the scores for water quality, contaminants in sediment and ecology. Bathing Beach scores are not included in this grade.

These grades represent an average of the results from the individual sites. Individual site results will vary and localised issues may not be represented by the overall grades.



### UPPER WAITEMATĀ HARBOUR MONITORING SITES



# MONITORING BACKGROUND AND INTERPRETATION

**Water quality:** To measure the health of our marine waters, a comprehensive range of parameters including nutrients, turbidity, salinity, pH (and more) are measured. Results are classified according to the Water Quality Index, which was developed by the Canadian Council of Ministers of the Environment in 2001 and adapted by Auckland Council. Scores are based on the averages over the last three years and exclude 'bathing beach water quality'. Check out report TR2013/031.

**Contaminants in sediment:** Auckland Council tests for zinc, copper and lead every two to five years. Other contaminants such as PAHs (polycyclic aromatic hydrocarbons, by-products of burning fuels) and arsenic are also monitored. Environmental Response Criteria (ERC) are used: green indicates low levels of contaminants, amber indicates some elevation and red indicates relatively high levels (as outlined in *Blueprint for monitoring urban receiving environment*, ARC TP 168, 2004 and ANZECC guidelines). Check out report TR2012/041.

**Ecology:** At harbour and estuarine sites, seabed-dwelling (benthic) species are counted and contaminants in sediments and sediment grain size are measured every two to five years, with the most contaminated sites sampled most frequently. Results are classified according to a five-point health index outlined in

Health of estuarine soft-sediment habitats: continued testing and refinement of state of the environment indicators, Auckland Council technical report, TR2012/012, which ranges from 'extremely good' to 'unhealthy with low resilience'. Ecology is also monitored more frequently at selected sites, every two to three months for soft sediment sites and annually for subtidal rocky reefs. There is currently no reporting indicator for reef ecology. Check out report TR2013/027.

**Bathing beach water quality:** Tests for microbiological (enterococci) contamination are carried out in summer as part of the Safeswim programme and are in line with Ministry for the Environment guidelines. These results are reported as a 'Quickfact' and are calculated from all tests carried out at all monitored beaches in the Harbour. 'Bathing beach water quality' has not been included in the overall score as it relates to human health and is based on a different method of assessment (number of alerts). Individual results for monitored beaches are provided on the Safeswim section of the Auckland Council website.

**Warning:** These State of the Environment indicators DO NOT measure or indicate food quality or safety; refer to [foodsafety.govt.nz](http://foodsafety.govt.nz) for more information.

## MONITORING RESULTS



WATER QUALITY

Marine water quality monitoring began in 1991. The water quality of the Upper Waitematā Harbour has been ranked as 'poor'. Of the eight sites in the Upper Waitematā, five were ranked as 'poor', two were ranked as 'fair' while Hobsonville jetty ranked as 'good'. This water quality grade has decreased from last year due to elevated concentrations of nutrients, suspended sediment, phytoplankton and turbidity with lower oxygen levels in the water column.



CONTAMINANTS IN SEDIMENT

Sediment quality sampling began in 1998. Sediment contaminant concentrations in the Upper Waitematā Harbour are generally below, or just exceed, amber ERC thresholds. However, these levels are higher than might be expected for the predominately rural surrounding land use. Ongoing development and urbanisation of the catchment, and effects from commercial coastal activities and the wider Waitematā Harbour, may be contributing to the observed levels.

All 16 sites sampled for PAHs fall into the green ERC category. Of the 19 sites regularly monitored for metals their ERC status remain largely unchanged from the last report with:

- » Copper: 47% are green, 53% are amber and none are red
- » Lead: 84% are green, 16% are amber and none are red
- » Zinc: 95% are green, 5% are amber and none are red.



ECOLOGICAL HEALTH

The overall ecological health grade of this reporting area remains unchanged from last year. However, of the 14 sites included in this grade, six received an improved grade of 'poor' or 'moderate' while one received a decreased rank from 'poor' to 'unhealthy'. Poorest ecological health is generally associated with sites located in the upper reaches of tidal arms like Lucas and Hellyers creeks, or Rangitopuni, Paremoremo and Brighams sites which rank as 'poor' or 'unhealthy'.

### FIND OUT MORE

This report card is part of a series prepared by the Auckland Council's Research, Investigations and Monitoring Unit, which undertakes monitoring and research to provide information and evidence to inform the council's activities and reporting.

Auckland's environment must be healthy and resilient in order to support life and lifestyle. More report cards can be found at: [aucklandcouncil.govt.nz/stateofauckland](http://aucklandcouncil.govt.nz/stateofauckland). The report card series includes reporting on freshwater, terrestrial, marine, air,

### GET INVOLVED

Auckland Council provides more than 20 environmental programmes across the region for you to get involved with and improve your local environment.

► For more information: e-mail [monitoring@aucklandcouncil.govt.nz](mailto:monitoring@aucklandcouncil.govt.nz) or call us on 09 301 0101.

